4800 Specifications

Unless otherwise noted, specifications are for configuration with internal radio modem.

Performance Specifications

Real-time Survey Performance

(Requires TSC1 handheld with Survey Controller software)

Modes: Real-time stop-&-go, Real-time continuous

Accuracy:

Modes	Latency	Accuracy
1 Hz fine	0.4 second	±1cm+2ppm Horizontal ±2cm+2ppm Vertical
5 Hz fine	0.1 second	±3cm+2ppm Horizontal ±5cm+2ppm Vertical
Coarse	20cm RMS	

Range: Up to 10km, depending on radios used

Initialization:

Type: Automatic while moving (on-the-fly [OTF]) or static

Reliability: ≥ 99.9%

Time: < 1 minute typical

All real-time survey performance criteria are a function of the number of satellites visible, obstructions, baseline length, multipath, reference station position accuracy and environmental effects.

Static Survey Performance (Post-processed)

Modes: Static survey, FastStatic survey

Accuracy:

Horizontal: 5mm + 1ppm (times baseline length)

Vertical: 10mm + 1ppm (times baseline length)

Azimuth: 1 arc second + 5/baseline length in kilometers

Assumes five satellites (min) tracked continuously using the recommended static surveying procedures utilizing the L1 and L2 signals at all sites; precise ephemerides and meteorological data may be required. FastStatic accuracy is a function of occupation time and observation conditions

Kinematic Survey Performance (Post-processed)

(Requires TSC1 handheld with Survey Controller software)

Modes: Continuous, Stop & go

Accuracy:

Horizontal: 1cm + 2ppm (times baseline length ≤10km)
2cm + 1ppm (times baseline length >10km)

Vertical: 2cm + 1ppm (times baseline length)

Occupation: Continuous: 1 second measurement time
Stop & go: 2 second (min) with 5 satellites

General Performance

Tracking: 9 channels L1 C/A code, L1/L2 full cycle carrier
Fully operational during P-code encryption

Datalogging: Data is logged internally, in TSC1 handheld unit (optional), or on TSC1 removable PCMCIA card (optional)

Internal Data Storage: 50 hours of L1/L2 data while tracking 6 SV's at 15 second epoch interval

Internal Radio Modem and Antenna Performance

(Requires internal radio modem and internal radio antenna)

Modes: High gain UHF

Range:

	Base Radio Modem	
	Trimtalk 450S	TrimmarkII
Optimal:	5Km	10Km
Typical:	2-3Km	5-8Km

Varies with terrain & operating conditions repeaters may be used to extend range depending on type of radios used

Radio Modem*:

Freq. Range 430-440 MHz, 440-450 MHz, 450-460 MHz or 460-470 MHz (only one per model)

Channels Up to 20 (factory pre-set)

Channel Spacing 12.5 KHz or 25 KHz (only one per model)

Wireless Data Rates: 4800 and 9600 bps *

Modulation: GMSK

* The 9600 bps wireless rate is not available on units with 12.5 KHz channel spacing.

Specifications and descriptions subject to change without notice.

Technical Specifications

Physical

Size: 9"D x 7"H (23 cm D x 17.8 cm H) 4800 only

Weight: 4.1 lb. (1.8 kg) 4800 only, without radio
8.5 lb. (3.9 kg) as complete RTK rover
(includes internal radio modem and antenna, pole, battery and TSC1 handheld with bracket and cable)

Electrical

Power: Nominal 10.5-20 VDC, 2 DC power inputs,
Nominal 6W (4800 only), 7W (while powering internal radio modem and TSC1 handheld)

GPS Signal processing: 32 bit processor; Maxwell architecture; Multibit, very low-noise C/A code processing; Super-trak

Battery: >8 hours typical with 6Ah battery
>4 hours typical with PowerLiTE Lithium ion battery

Status indicators: Three LED indicators for power, satellites tracked, and data storage/transmission

On/off: Single button or remote controlled with TSC1

GPS Antenna: Integrated Micro-centered GPS antenna and groundplane

Communication: Dual RS232 ports for serial input and data collector control; Baud rates up to 38,400; Dedicated RS232 serial port for external radio communications.

Certification: FCC, DOC, and CE Mark approved

Environmental

Operating temp: -40° to +65°C

Storage temp: -40° to +75°C

Humidity: 100%, fully sealed, buoyant

Shock: 2m pole drop

Options and Accessories

Survey accessories: PowerLiTE GPS pole
Trimble System Controller (TSC1) handheld
4mb or 10mb PCMCIA cards for TSC1

Receiver options*: RTCM SC-104 input version 2.1
RTCM SC-104 output version 2.1
NMEA-0183 Navigation output
RTK/OTF operation
Internal radio modem/radio antenna

Batteries: 6Ah sealed lead acid, PowerLiTE Lithium ion

Support: Extended hardware warranty
Firmware and software update services
Training at factory or on-site

GPS Software

GPSurvey Post-Processing Software
For mission planning, automatic data processing, quality control, database management, network adjustment (TRIMNET Plus™) and outputs to mapping software

Trimble Survey Office
Topographic mapping software. See Trimble Survey Office data sheet for more information

Ordering Information

4800 Post-processing only	**34116-10**
4800 Post-processing and real-time	**34116-20**
4800 Post-processing and real-time with internal radio modem/antenna**	**34116-30**

In addition to 4800 unit, each of the above also includes download cable, softcase, H.I. tape, and manual.

**Frequencies, channel spacing and country-of-use must be specified at time of order.

See "4800 Standard Bundles" order guide for typical GPS Total Station 4800 configurations.

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